

coil 4 and slits 55 and 56 formed behind said heat transfer coil are arranged so as to provide a mutually different length among adjoining partitioned slits in the vertical direction, as well as a mutually different length between directly opposite partitioned slits in the horizontal direction. As a result, the position at which the slit is partitioned is staggered. The two slits 53 and 54 formed side by side between heat transfer coil 4 and heat transfer coil 4 are of the same length. For a 7 mm diameter heat transfer coil, the slit width relative to the diameter of the heat transfer coil ranges from 1.2/7 (approximately 0.17) to 2.0/7 (approximately 0.29), and the slit spacing relative to the diameter of the heat transfer coil ranges from 1.3/7 (approximately 0.18) to 3.5/7 (approximately 0.5).

Discussion of Office Action Rejections

The Office Action rejected claims 2-4 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. The examiner states that "the cut profile" is perpendicular to the air flow rather than parallel. Applicants respectfully that the "cut profile" means that a cross-sectional part when cutting a slit into the slit 51 and 52. Therefore, the cut profile is clearly parallel with the air flow.

Turning now to the substantive rejection, the Office Action rejected claim 1-4 under 35 U.S.C. 102(b) as being anticipated by Kang et. al (Kang, hereinafter). In response, Applicants respectfully traverse the rejections for at least reasons set forth as followings.

Applicants' invention is directed to a heat exchanger. For example, in Fig. 1, slits 51 and 52 formed in front of the heat transfer coil 4 and slits 55 and 56 formed behind said heat transfer coil are arranged so as to provide *a mutually different length among adjoining*

partitioned slits in the vertical direction, as well as a mutually different length between directly opposite partitioned slits in the horizontal direction. The requisite features of independent claims 2-5 in the invention are characterized by features, which are recited immediately as follows:

2. A heat exchanger in which heat transfer coils penetrate through a row of multiple plate-shaped heat transfer fins set at a specified fin pitch, and slits are formed on each plate-shaped heat transfer fin, and in which air is supplied orthogonally to said heat transfer coils, characterized by *a configuration in which the width of each slit formed orthogonal to the air flow on each heat transfer fin is set within a range of 0.17 - 0.29 times a diameter of the heat transfer coils, wherein two slits formed in front of the heat transfer coil each having mutually different lengths and two slits formed behind said heat transfer coil each having mutually different lengths, and the slits are perpendicular to the air flow and a cut profile of each of the slits is parallel to the air flow.*

3. A heat exchanger in which heat transfer coils penetrate through a row of multiple plate-shaped heat transfer fins set at a specified fin pitch, and slits are formed on each plate-shaped heat transfer fin, and in which air is supplied orthogonally to said heat transfer coils, characterized by a configuration in which the spacing between slits formed on the heat transfer fins is *set within a range of 0.18 - 0.5 times the diameter of the heat transfer coils, wherein two slits formed in front of the heat transfer coil each having mutually different lengths and two slits formed behind said heat transfer coil each having mutually different lengths, and the slits are perpendicular to the air flow and a cut profile of each of the slits is parallel to the air flow.*

4. A heat exchanger in which heat transfer coils penetrate through a row of multiple plate-shaped heat transfer fins set at a specified fin pitch, and slits are formed on each plate-shaped heat transfer fin, and in which air is supplied orthogonally to said heat transfer coils, characterized by a configuration in which the width of each slit formed on each heat transfer fin is *set within a range of 0.17 - 0.29 times the diameter of the heat transfer coils, and the spacing between slits formed on the heat transfer fins is set within a range of 0.18 - 0.5 times the diameter of the heat transfer coils, wherein two slits formed in front of the heat transfer coil each having mutually different lengths and two slits formed behind said heat transfer coil each having mutually different lengths, and the slits are perpendicular to the air flow and a cut profile of each of the slits is parallel to the air flow.*

(*Emphasis added*) Applicants respectfully submit that claimed features contain subject matter emphasized above that is lacked in the prior art.

Claims 1-4 were rejected under 35 U.S.C. 102(b) as being anticipated by Kang. The Office Action alleged that the geometrical relationship of Kang's drawings shows the claimed formula of the invention. In addition, the Office Action alleged that the slits of Kang are different in length. In response, Applicant respectfully disagrees the rejection and interpretations for at least reasons set forth as follows.

Regarding the interpretations, Applicants do not agree for following reasons. First, in the present invention, the two partitioned slits in front of and behind the transfer coil 4 are not equal in length.

Referring to Figs. 10A and 10B, according to Kang's disclosure, the two slits formed behind the coil 30 are equal in length, which is completely different from the claimed features of the present invention. In addition, three slits are formed in front of the coil 30, two of them are equal in length.

According to the claimed feature of the present invention, the present invention clearly states that *wherein two slits formed in front of the heat transfer coil each having mutually different lengths*. Referring to Fig. 5 of the present invention, in front of the transfer coil 4, *two slits 51, 52 are different in length. As for the slits 55, 56, no split portion is formed on the slit 52*. Therefore, it is very clear and obvious that Kang fails to disclose, suggest or teach any one of

the claimed features of the present invention. Regarding Fig. 9 of Kang, all of the disclosed slits are equal in length, which is completely different from the claimed features of the invention.

In addition, regarding the claimed formula, Applicants strongly emphasize again that Kang fails to disclose the optimum formula as claimed in the present invention. The Examiner's interpretation is only based on the measurements from the drawings of Kang. However, Kang is completely silent on the actual geometrical relationship. It is improper and unfair to reject the claimed formula only based on Examiner's own measurement from the drawings.

For at least the reasons set out above, independent claims 1-4 patently define over Kang, and should be allowed.

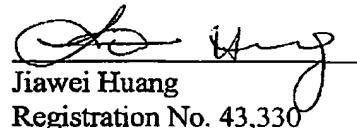
CONCLUSION

For at least the foregoing reasons, it is believe that all pending claims 1-4 are in proper condition for allowance. If the Examiner believes that a conference would be of value in expediting the prosecution of this application, he is hereby invited to telephone the undersigned counsel to arrange for such a conference.

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